

REMARKS

Claims 1-15 and 17-22 are pending in which claim 16 is canceled herein. In the Office Action, claims 1, 9-15 and 18-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kudo et al. (“Kudo”, Pat. No. 7,023,458) in view of Kato (US 20020126112), and claims 2-5 and 16-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kudo in view of Kato and Suzuki et al. (“Suzuki”, US Pat. No. 6,157,335).

Claims 6-8 were objected to as being dependent upon a reject base claim, but were otherwise considered allowable.

In the previous Office Action, claims 5-8 were objected to because of informalities. In particular, the value “Q” was stated as being undefined in claim 5. Applicant had intended to amend claim 5 for consistency to refer to the value Q as a positive integer. In the amendment, however, Applicant inadvertently re-defined “M” as a positive integer rather than Q. Claim 5 is amended once again to define the value Q as a positive integer. Applicant requests approval of this amendment.

Furthermore, claim 1 is amended to replace “decoder” in the last element with the word “select” for proper antecedent basis with the “select logic” previously introduced within claim 1. Applicant requests approval of this amendment.

Applicant respectfully traverses the §103(a) rejection of claims 5 and 16-17 as being unpatentable over Kudo in view of Kato and Suzuki.

Contrary to that stated in the Office Action, Kudo does not show selectively decoupling second resistors at corresponding intermediate locations and inserting corresponding adjustable tap resistors as recited in claim 5. Kudo FIGs 4A - 4C show and describe an embodiment of the variable resistances 321 - 324 of the resistor ladder 307 of FIG. 3, in which any one or more of the resistors 4R, 8R and 16R are selectively included within the resistor ladder 307. However, the resistors 4R, 8R and 16R are fixed resistances and are not adjustable tap resistors. As shown in FIG. 3 and as described in Kudo (col. 7, line 60 to col. 8, line 42), the variable resistors 321 - 324 are used to adjust amplitude and gradient of gray scale voltage (as illustrated in FIGs 2A - 2D of Kudo). Kudo FIGs 7A and 7B show a resistive voltage dividing circuit 702 which is an embodiment of any one of the resistive voltage dividing circuits 326 - 331 of FIG. 3 (Kudo, col. 13, lines 25 - 30). As shown and described in FIG. 7A, the fixed resistors 1R are not selectively inserted but instead are fixed within the resistance ladder 307 of FIG. 3. In this case, the circuits 701 and 703 are controlled to selected one of the "micro adjustment gray scale voltages A to H" (col. 13, lines 30-36) by selecting one of the junctions at A-H. Kato and Suzuki fail to overcome the deficiency of Kudo so that claim 5 is allowable over Kudo in view of Kato and Suzuki.

It is considered desirable to review a particular embodiment shown and described in the present application, which represents a particular embodiment without limiting the invention as described in the claims. Applicant directs attention of FIG. 4 of the present application as filed. Briefly, each resistor RA comprises multiple resistors coupled in series (e.g., RA1), and further each resistor RB is an adjustable tap resistor comprising multiple resistors coupled in series (e.g., RB1). The switches SS1 - SSQ within RA1

allow the corresponding adjustable tap resistor RB1 to be inserted at any selected intermediate junction between the multiple resistors of RA1 as controlled by the GS signal from the decoder 405 of FIG. 4.

Claim 1 is amended to incorporate a generalized version of the language in claim 5 as fully supported by the application as filed (see, e.g., FIG. 4 and description thereof beginning at paragraph [0034]). In particular, claim 1 is amended to recite that the resistor ladder comprises “a plurality of first resistors coupled in series, each of said plurality of first resistors comprising a plurality of second resistors coupled in series forming a plurality of intermediate locations” and to recite that the select logic inserts each of the M adjustable tap resistors into the resistor ladder into M of the plurality of first resistors by inserting a corresponding one of the adjustable tap resistors at a selected one of the intermediate locations of a corresponding one of the first resistors. Claim 5 is amended in accordance with amended claim 1.

Applicant respectfully submits that Kudo in view of Kato and Suzuki does not show selectively inserting adjustable tap resistors at selected intermediate locations of series-coupled resistors as recited in amended claim 1, so that claim 1 is allowable over Kudo in view of Kato and Suzuki. Claims 2-13 are allowable over Kudo in view of Kato and Suzuki as depending upon allowable claim 1. Applicant requests withdrawal of the rejections of and objections to these claims.

In a similar manner, Kudo in view of Kato and Suzuki does not show a plurality of first resistors distributed along a resistor ladder, each first resistor coupled to a corresponding one of a plurality of adjustable tap resistors, in which each first resistor

comprises a plurality of second resistors coupled in series forming a plurality of first junctions, and first switch logic that inserts a corresponding one of the adjustable tap resistors at one of the first junctions as originally recited in claim 16. As described above, Kudo in view of Kato and Suzuki shows either selectively inserting a fixed resistor or selecting an existing node within a resistive ladder rather than inserting a plurality of adjustable tap resistors at selective resistor junctions as recited in claim 16.

Applicant respectfully submits, therefore, that claim 16 is allowable over Kudo in view of Kato and Suzuki. Claim 17 is allowable over Kudo in view of Kato and Suzuki as depending upon allowable claim 16. Applicant requests withdrawal of this rejection.

Claim 14 is amended to incorporate the substance of claim 16 and claim 16 is canceled. Claim 14 is further amended to recite that the select logic is coupled to control the first logic according to the at least one digital gamma value. Claim 17 is amended to depend upon claim 14 rather than canceled claim 16. In this manner, claim 14 is allowable over Kudo in view of Kato and Suzuki. Claims 15 and 17-18 are allowable as depending upon allowable claim 14. Applicant requests withdrawal of the rejections of these claims.

Claim 19 is amended in a similar manner as claims 1 and 14. In particular, claim 19 is amended to recite that the resistor ladder comprises “a plurality of resistors coupled in series and forming a plurality of intermediate junctions”, that “each of said plurality of potentiometers is inserted at a corresponding one of said plurality of intermediate junctions”, and that the select logic “selects from among said plurality of intermediate junctions for inserting said plurality of potentiometers”.

As described above, Kudo in view of Kato and Suzuki shows either selectively inserting a fixed resistor or selecting an existing node within a resistive ladder rather than inserting a plurality of potentiometers at selective intermediate junctions of a plurality of series-coupled resistors as recited in amended claim 19. Therefore claim 19 is allowable over Kudo in view of Kato and Suzuki. Claims 20-22 are allowable as depending upon claim 19. Applicant requests withdrawal of the rejections of these claims.

CONCLUSION

Applicant respectfully submits that for the reasons recited above and for various other reasons, the objections and rejections have been overcome and should be withdrawn. Applicant respectfully submits therefore that the present application is in a condition for allowance and reconsideration of the claims is respectfully requested. Should this response be considered inadequate or non-responsive for any reason, or should the Examiner have any questions, comments or suggestions that would expedite the prosecution of the present case to allowance, Applicants' undersigned representative earnestly requests a telephone conference at (512) 295-8050.

Respectfully submitted,

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